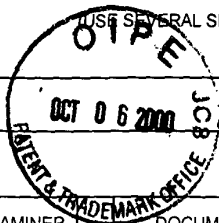


FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. NIH099.001C1	APPLICATION NO. 09/574,819
INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (USE SEVERAL SHEETS IF NECESSARY)		APPLICANT Luyten, et al.	
		FILING DATE May 19, 2000	GROUP Unknown

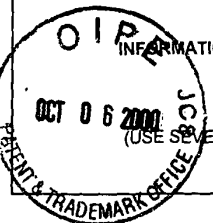


U.S. PATENT DOCUMENTS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)
AR	1	4,609,551	09/02/86	Caplan, et al.		
	2	4,810,691	03/07/89	Seyedin, et al.		
	3	4,935,497	06/19/90	Veis, et al.		
	4	5,658,882	08/19/97	Celeste, et al.		
	5	5,770,444	06/23/98	Lee, et al.		
	6	5,801,014	09/01/98	Lee, et al.		
	7	5,807,713	09/15/98	Hötten, et al.		
AR	8	5,994,094	11/30/99	Hötten, et al.		

FOREIGN PATENT DOCUMENTS							
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
AR	9	PCTEP93/00350	08/19/93	EPO			
	10	PCT/US94/00657	07/21/94	US			
	11	PCT/US94/07762	01/19/95	US			
AR	12	PCT/EP94/02630	02/16/95	EPO			

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)	
AR	13	Adamson, M.C., ET LA., "The mouse homolog of the Gibbon Ape Leukemia Virus Receptor: Genetic Mapping and a Possible Receptor Function in Rodents", Virology 183, 778-781 (1991)
	14	Alberts, et al., "Molecular Biology of the Cell", January, 1994, Garland Publishing, Inc., New York, NY, page 119
	15	Bowie, et al., "Deciphering the message in protein sequences: tolerance to amino acid substitutions. Science, (1990 Mar 16), 247, (4948) pages 1306-1310
	16	Chang, et al., "Cartilage-derived Morphogenetic Proteins", Journal of Biological Chemistry, Vol. 269, No. 45, Issue of November 11, pp. 28227-28234 1994
	17	Chomczynski, P., et al., "Single-Step Method of RNA Isolation by Acid Guanidinium Thiocyanate-Phenol-Chloroform Extraction", Analytical Biochemistry 162, 156-159, (1987)
	18	Grimaldi, J.C., et al., "Geonomic Structure and Chromosomal Mapping of the Murine CD40 Gene", The Journal of Immunology 149, (12), 3921-3926, (1992)
	19	Hötten, et al., Cloning and Expression of Recombinant Human Growth ..., Biochemical and Biophysical Research Communications, Vol. 204(2): 646-52, October 28, 1994
AR	20	Invitrogen Product Catalog, 1995, page 31

EXAMINER <i>Donald R. Rowe</i>	DATE CONSIDERED 4/7/2
<p>*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.</p>	

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. NIH099.001C1	APPLICATION NO. 09/574,819
		APPLICANT Luyten, et al.	
		FILING DATE May 19, 2000	GROUP Unknown

21	Kingsley, D.M. "The TGF- $\beta$ superfamily: new members, new receptors, and new genetic tests of function in different organisms". Genes and Development, (1994 Jan) 8 (2) 133-146
22	Luyten, F.P., et al., "Purification and Partial Amino Acid Sequence of Osteogenin, a Protein Initiating Bone Differentiation", The Journal of Biological Chemistry 264 (23), 13377-13380, (1989)
23	Luyten, F.P., et al, "Recombinant Bone Morphogenetic Protein-4, Transforming Growth Factor $\beta$ 1, and Activin A enhance the Cartilage Phenotype of Articular Chondrocytes in Vitro", Experimental Cell Res. 210, 224-229 (1994)
24	Lyons, K. M., et al., "Organogenesis and Pattern Formation in the Mouse: RNA Distribution Patterns Suggest a Role for Bone Morphogenetic Protein-2a (BMP-2A)", Development 109, 833-844 (1990)
25	Muthukumar, N., et al., "Comparison of Bone Inductive Proteins of Rat and Porcine Bone Matrix", Biochemical and Biophysical Research Communications 131 (1), 37-41, (1985)
26	Ngo, et al., "The Protein folding Problem and Tertiary Structure Prediction", Merz and Le Grand (Eds), August, 1994, Springer Verlag, pages 433- 506 (Ch. 14)
27	Owens, E. M., et al., "Cell-Cell Interaction by Mouse Limb Cells During in Vitro Chondrogenesis, Analysis of the Brachpod Mutation <sup>1</sup> ", Developmental Biology 91, 376-388, (1982)
28	Paralkar, v. M. et al., "Affinity of Osteogenin, an Extracellular Bone Matrix Associated Protein Initiating Bone Differentiation, for Concanavalin A", Biochemical and Biophysical Research Communications 160(2), 419-424, (1989)
29	Pelton, R.W., et al., "Expression of Transforming Growth Factor $\beta$ 2 RNA during Murine Embryogenesis", Development 106, 759-767, (1989)
30	Ramachandran, G. N., et al., "Collagen and Cell Differentiation", Biochemistry of Collagen, Ch. 9, pp. 449-478, (1976)
31	Reddi, A. H., "Bone morphogenetic proteins: an unconventional approach to isolation of first mammalian morphogens", Cytokine and Growth Factor Reviews, 1997, vol. 8, No. 1, page 11-20
32	Sambrook, et al., "Molecular Cloning: A Laboratory Manual", 2 <sup>nd</sup> edition, vol. 1, 2, & 3, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York, U.S.A., November, 1989, page 9.47-9.51, 11.4, 16.19 and 16.41-16.44
33	Sampath, T.K., et al., "Isolation of Osteogenin, an extracellular matrix-associated, bone inductive protein, by Heparin Affinity Chromotography", Proc. Natl. Acad. Sci. USA 84, 7109-7113 (1987)
34	Scheerlinck, J. Y., et al., "Redistribution of a Murine Humoral Immune Response Following Removal of an Immunodominant B cell epitope from a recombinant Fusion Protein." Molecular Immunology 30 (8), 733-739 (1993)
35	Shah, et al., "Neutralisation of TGF- $\beta$ 1 and TGF- $\beta$ 2 or exogenous addition of TGF- $\beta$ 3 to cutaneous rat wounds reduces scarring", Journal of Cell Science 108, 985-1002 (1995)
36	Siracusa, L. D., et al., "Mouse Chromosome 2", Mammalian Genome 4:S31-S46, (1993)
37	Sorgenate, N., et al., "Extractability of Lysozyme from Bovine Nasal Cartilage", Biochemica Biophysica Acta 284: 441-450, (1972)
38	Storm, E. E., et al., "Limb Alterations in Brachpodism Mice due to Mutations in a new Member of the TGF- $\beta$ Superfamily", Nature 368: 639-643 (1994)
39	Storm, et al., Genbank Accession No. U08338, National Institutes of Health, Bethesda, Maryland, U.S.A., June 6, 1994.
40	Vukicevic, et al., "Developing Human Lung and Kidney are Major sites for Synthesis of Bone Morphogenetic Protein-3 (Osteogenin)", The Journal of Histochemistry and Cytochemistry 42(7): 869-875 (1994)
41	Vukicevic, et al., "Induction of nephrogenic mesenchyme by osteogenic protein 1 (bone morphogenetic protein 7)" Proc. Nat'l Acad Sci USA, 1996 August 20; 93(17):9021-6
42	Wozney, et al., "Novel Regulators of Bone Formation: Molecular Clones and Activities", Science 242, 1528-1534, see Table 1 at page 1531 (1988)

O:\DOCS\INWV\INWV-3366.DOC

EXAMINER	<i>David Rome</i>	DATE CONSIDERED	<i>4/7/2</i>
<p>*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.</p>			